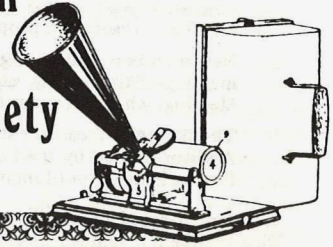


The Hillandale News

The official journal of
The City of London
Phonograph and
Gramophone Society
Inaugurated 1919



No 103

AUGUST 1978



Cover Illustration: Joe Pengally at BBC South West Television Studios.

1. That the Society shall be called THE CITY OF LONDON PHONOGRAPH & GRAMOPHONE SOCIETY, and that its objects shall be the social intercourse of its members, as well as the scientific and musical study of sound reproducing apparatus, as well as its application.
2. That the Officers of the Society shall consist of a President, Vice President, Chairman, Vice Chairman, Secretary, Financial Treasurer and Meetings Secretary, who shall be elected at each Annual General Meeting in October, and who shall be ex-officio members of the Committee.
3. That the management of the Society be vested in a Committee, similarly elected at each Annual General Meeting, and with power to co-opt, and that its duties shall be the carrying into effect of these rules and objects. Written notice must be given to the Secretary one clear month before an Annual General Meeting of any resolution proposing to amend these rules.
4. New members (ladies or gentlemen) may be elected on the nomination of any existing member, at any meeting of the Society on the payment of an annual subscription to be approved at the Annual General Meeting, which is renewable twelve calendar months thereafter.
5. The financial Treasurer shall, once in every year, submit a statement of Accounts of the Society to an Auditor elected by the Society and shall furnish a Balance Sheet for the financial year ending October for the inspection of members at each Annual General Meeting.

President: George Frow, [REDACTED] Sevenoaks, Kent, TN13 3SH
 Vice-Presidents: James F. Dennis, R.C.S., [REDACTED] Ipswich, Suffolk, IP1 1TW
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 Committee: B. Raynaud, F. Andrews, Dave Roberts, Len Watts.
 Editor/Publisher: Bill Brott, [REDACTED] West Finchley, London N3 1PG.

TREASURER'S NOTES: In future, would members please send all monies in Sterling (cheques, Postal Orders, etc.) direct to the Treasurer, *together with all orders for goods*, as this will simplify our accounting system, and avoid double handling.

MEMBERSHIP RATES:

U.K.	£3.00 per year	U.S.A. & Canada	\$6.00 Surface Mail
New Zealand Airmail	£4.00 per year		\$8.00 Airmail
Australia, Japan, etc. (now payable directly to the Treasurer, as bulk subscription has ceased)	£4.00 per year		

Overseas members are requested to send STERLING DRAFTS or banknotes, as check clearances here carry a high commission rate. The Society no longer operates within the Post Office Giro system. New Zealand and Australian Postal Orders are acceptable in the U.K. To save postage in mailing receipts, these are sent out with the goods or next magazine to members. PLEASE MAKE OUT ALL CHECKS AND DRAFTS PAYABLE TO "THE CITY OF LONDON PHONOGRAPH AND GRAMOPHONE SOCIETY".

HEREFORD. Details from the Secretary, D.G. Watson, [REDACTED] Tupsley, Hereford.

MIDLANDS. Details from the Secretary, P. Bennett, [REDACTED] Goldthorn Park, Wolverhampton, Staffs, WV4 5DE. Phone: [REDACTED]

MANCHESTER. Details from the Secretary, Ernest Wild, [REDACTED] Uppermill, Oldham OL3 6EB

VICTORIA, AUSTRALIA. Details from C. Gracie, [REDACTED] Cavendish, Victoria 3408, Australia.

MEMBERS PLEASE NOTE that all money should now be sent to our Treasurer, B.A. Williamson, [REDACTED] Liverpool, L16 1LA.

COVER ILLUSTRATION:

Joe Pengally at BBC South West Television Studios

Chairman's Chat

Plus ça change

I read in the papers that the recording industry has just come up with a new invention. They call it 'Direct Cut Recording', the idea being that you dispense with the tape that has been regarded as indispensable since the late 1940s and record direct on to an acetate disc. One might expect this to save money, but no, I gather the records (which are confined to rock or jazz, or whatever it's called) will set you back a tenner apiece. Next year, I suppose, Sony will come up with an exponential horn (made out of old computer tapes) and in 1980 the latest outfit from Messrs. Bang & Olufsen will come complete with dog.

The person I feel sorry for is Frank Andrews, our indefatigable historian; he regards as the closing point for his research the adoption of tape, at which stage the record sold to the public ceased to give a true reproduction of an actual performance. Now, it seems, Frank's history will have to take up again in 1978, after a gap of some twenty years. I do hope HMV don't start making portable gramophones again.

Readers may recall that a short time back I wrote about Trench portables with Celeste soundboxes. I am delighted to say that two members responded to this by telling me of their own examples of this machine, one of which bears the name 'Celeste' in the lid. This is the first one I have heard of with a name anywhere but on the soundbox, and it seems that the machine was marketed under two different names. Since the Celeste soundbox is common to both, the likelihood is that Celeste was the original name, 'Trench' was possibly used by a wholesaler or chain-store offering it as an 'own brand' model. News of any further examples would be welcomed.

The Edison Cylinder Phonographs, 1877-1929

George L. Frow and Albert F. Seft.

Back at the beginning of the present decade there appeared from the first of these two authors a slim volume detailing all the spring-driven domestic Edison phonographs, and it is easy to forget now how important that book was. Without it many collectors even today would be unable to recognise an Idelia, or to realise that a square-topped Standard was not the unfortunate victim of a re-build by Uncle Fred in his little workshop down the garden. Most of us would probably not even be aware of the early Gems, and only with the aid of Frow can the newcomer hope to find his way through the maze of Edison reproducers. However, this indispensable monograph has been unobtainable for some time now, and the second edition has been eagerly awaited.

At last it is here. In fact, to call it a second edition is to do it an injustice, for what we have is a completely new book, written in collaboration with a collector on the other side of the Atlantic. This time there are 200 pages, bound in hard covers, and details of all the Edison entertainment models of cylinder phonographs, be they electric or clockwork, domestic or coin-in-slot. An introductory chapter also covers the Tinfoil and early wax cylinder models, including some unusual versions of the latter, and then the recipe is as before, but on a greatly enlarged scale; a section devoted to each model, specifying its details, options and modifications in chronological order. There is a splendid array of photographs, the majority of which we have not seen before. Most are of machines in

present-day collections, but there are also some interesting extracts from contemporary publicity material.

Like its predecessor, the book will be indispensable to every Edison machine collector, providing information on dating and on correct equipment. It goes much further than this, however, offering, so to speak, food for his wildest dream. He can gloat covetously over Alvas, Eclipses, Oratorios, water motors, Polyphone attachments and much else besides. Reproducers are shown in detail, and here again there are one or two that will be new to most readers. As a sort of bonus, at the end of the book there is a glossary of terms relating not merely to Edison phonographs but to other machines as well, while other 'extras' are notes on Edison horns, shaving machines, repairing attachments and the introduction of the Model C phonographs, not to mention a reprint of the Scientific American article on the New Phonograph of December 31st 1887.

The main section of the book is, by its nature, too tightly packed with facts to make good bedtime reading; it is intended as a reference work, but the serious collector will be well advised to try and read the book from cover to cover at least once. You never know when you may come across some unusual machine or component, and your chances of missing something important will be greatly reduced if you have even half the information in this book committed to your sub-conscious.

Complaints are few; with no comparable work on the subject available, one can only judge accuracy by looking at descriptions of familiar machines, and the lack of any apparent errors here suggests a very high degree of accuracy throughout. Some problems have arisen in placed with the layout, and one finds a page suddenly being divided into double columns for no apparent reason. This can leave one stranded in mid-sentence while the eye searches for the rest of it, a problem all too familiar from modern magazine production.

One could argue that it is not correct to describe the 'H' coin-in-slot model as the only one in this class to have the reproducer set in the side, as opposed to the top, position, for there are two examples known in this country of a pre-Excelsior Standard-based coin machine with this feature. I would have liked also some more explanation of the 'J' reproducer, which has a four-minute stylus in a flattened weight like the 'D'; I do not see why a Concert machine converted to play ordinary Amberols should still need the flattened weight, unless someone at the factory had ideas of producing a four-minute Concert cylinder. I find it comforting, somehow, to find that there can still be questions to answer when a book so obviously thoroughly researched as this appears.

Copies are obtainable from George Frow at £7 plus 70p post and packing, unless you live in the U.S.A., in which case you should order from A.F. Sefl, P.O. Box 858, Daly City, Calif. 94017, at \$ 14.95 (post and packing extra).

Hull
6.5.78

Dear Mr Brott,

In answer to the Hillandale News dated April 1978, I see the Model 109 Portable Columbia Grafonda on Page 23, I bought the 109 at a recent Auction, and a tin of Columbia needles with it, which I thought made the deal complete. Now when I see 'Lola' did I get the complete Model?

Yours sincerely, G.A. Dennis.

P.S. New Member, 70 Year old.

Sound Recording and Films

a short history by Paul Collenette

Almost from the beginning of motion pictures, attempts were made to produce a complete entertainment by allying sound reproduction with the pictures. First, in 1894, was Edison with his Kinetophone, the peep-hole coin-slot machine with which he had been experimenting since 1889. In the bottom of the cabinet was the upper works of a Spring-Motor type phonograph, which in this case was belt-driven off the projector motor. The viewer peered into the top of the machine — which would be found in similar locations to the 'phonograph parlours' — and donned ear tubes. The device was not to last long, largely as screen projection and longer films soon made it obsolete. Edison had always considered his motion-picture inventions to be an adjunct to his phonograph, though.

1900. The American Edmond Kuhn photographs sound on to film, using a telephone transmitter. But this was of little practical use as there was no means of amplification. (Like the telegraphone).

Several talking pictures were shewn at the Paris Exposition, using gramophone discs. One film was of Hamlet and featured Sarah Bernhardt.

1903. The first British attempt was by the Walturdaw Company, again on discs, who produced a series of Gilbert and Sullivan operas. In France, Pathe (naturally!) had a system, and in Germany there was Kosmosmograph.

1904. The first British talking films to make any impact on the public were Gaumont's Chronophone shorts. (Leon Gaumont was a Frenchman who set up a British branch, which later under British ownership, was to become Britain's largest film and entertainment company). The series was quite extensive and featured music-hall artistes such as Harry Lauder and Vesta Tilley. As with all mechanical systems, the big problems were amplification and synchronisation — or rather, their absence.

Sir Ambrose Fleming invents the thermionic valve, a cornerstone of later developments in electronics.

1907. Cecil Hepworth, a pioneer cinematographer and one of the most important film producers at this time, puts out his Vivaphone films. (All Hepworth's films, unfortunately were purposely destroyed in 1925, although many of them were unquestionably of great historical interest. The firm went bankrupt, and a bone-headed receiver insisted that the films be melted down for aeroplane dope.)

The German system Synchronoscope was used by Carl Laemmle for Universal, briefly.

Eugene Lauste, in France, patents a photo-electric sound-on-film system.

1908. Englishman Harold Jeapes produces Cinephone, and American J.A. Whitman the Cameraphone. Whitman captured, among others, Eva Tanguay and Blanche Ring, having a studio right by a Broadway theatre.

1911. Eugene Lauste perfects his photoelectric process, which after much uncertainty proves to be the one universally adopted. It is not yet put into use commercially, though.

1912. Edison renews his interest in talking films and produces his new Kinetophone. He

takes advantage of the new Blue Amberol process, with the far heavier weight which can be imposed on the groove. Volume was a 'must' in the cinema, and this did help. Also the large size and thus surface speed assisted in giving much greater volume and fidelity than hitherto. Indeed technically this was the best system prior to the photo-electric processes. Typically, though, Edison does not seem to have fully exploited his invention commercially. The records were made of the same materials as Blue Amberols, but were 5½" diameter and 8" long. The synchronization was controlled by the projectionist working wires, and following a moving arrow underneath the screen telling him to speed up or slow down.

1913. Elias Reed makes progress in photographing sound on film.

1919. Tri-Ergon system is patented in Germany.

1920. The photo-electric cell is patented by Theodore Case, who collaborated with Earl I. Sponable to produce the first widely-exhibited sound-on-film system.

Early 1920s. Lee de Forest, inventor of the Audion tube, leases Case-Sponable system and sets up a company using the name Phonofilm. Many Phonofilms (vaudeville shorts) are produced. These are mostly American, but the company later opens a studio at Clapham Junction.

1923. First public exhibition of a Phonofilm. (Pola Negri in *Bella Donna*.)

1925. Bell Telephone Laboratories of Western Electric develop a new, electric sound-on-disc system called "Vitaphone" as part of their experiments which produced the Orthophonic record. The firm lease the concept to the Warner Brothers, who are desperate for a new gambit to revive their near-bankrupt company.

1926. Phonofilm release the first sound-on-film made in England - a short of variety star Billy Merson.

The first feature film with synchronised sound effects — but still no talking — is exhibited in New York. This is "Don Juan" with John Barrymore; a Vitaphone picture.

1927. Warner Brothers-Vitaphone produce "The Jazz Singer", This is often cited as the first talkie, but is only correct if taken to mean the first picture with synchronised speech as well as music and effects. Anyway, Al Jolson made this film a sensational success, and from now on it is clear (to most people!) that talkies are here to stay. But until 1930, there are still plenty of silent and part-talking pictures. (Some completed or half-made silents have sound grafted on later, often with ludicrous results. A picture would start with captions and suddenly the characters would burst into speech — or worse, song. Sometimes there would be non-synchronous sound — just background music.)

William Fox, who has formed the Fox-Case Corporation with Case and Sponable, demonstrates their sound-on film process, Movietone. (The name, which soon passes into the American language, is still used for the newsreel — the only surviving one — Movietonews.) Fox arranges cross-licensing of patents with Western Electric.

General Electric (successors to the Edison General Electric Company) have also been busy and sell their own sound-on-film system to R.C.A. (Photophone). This is used by RKO, Paramount and many British studios.

Film speed is increased from 16 to 24 f.p.s.

1928. First all-talking picture is "Lights of New York."

Late 1920s. British firms work in developing sound on film systems, hoping to avoid royalties to the American patent holders.

Dr Otto Kolb, tame boffin at Gaumont-British, produces "British Acoustic", a remarkable and clumsy system that could be called "sound-on-another-film". The sound is photographed on to a film quite separate from the picture film.

British International Pictures, Britain's largest studio at this time, have AmBIPhone.

Blattner studio has Blattnerphone. It will be remembered that the scientific Dr Blattner also invented a steel-ribbon recorder.

Marconi's system, Visatone, is regrettably similar in quality to their process used on "Broadcast" records.

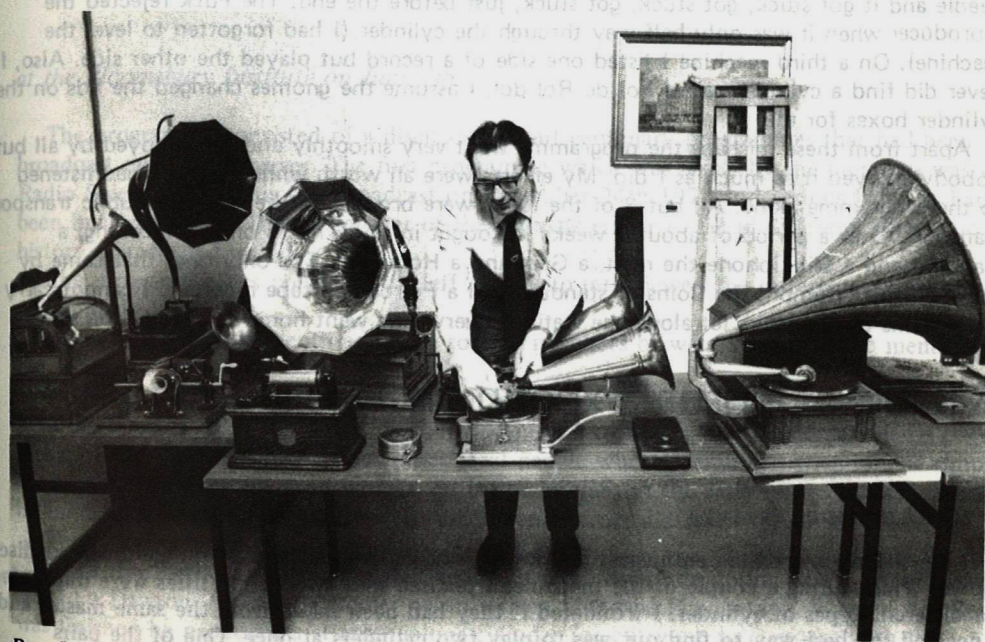
Vitaphone, with its awkward 16" cued discs on a turntable geared to the projector, is at first favoured by the studios because the distortion is far less than with Movietone. Also it does not take up picture space on the film. Western Electric leads the field in wiring up the cinemas, which at first "show" the soundtrack when projecting Movietone films until the projector is masked and a pick-up head fitted.

1929. Film studios universally install sound, and flood the cinemagoer with musicals.

1930. Even Warner Bros go over to sound-on-film. RCA and Western Electric ("Noiseless") as it was called until it ceased to be noisy) variable-area processes become standard.

Late 1950s. The big studios, badly hit by TV, come out with gimmicks such as Cinemascope (and earlier, colour and 3-D). These pictures stereophonic or multiple soundtracks.

This therefore brings us up to date, and it is interesting to see that stereophony has been the only major development in half a century. Is the science of film sound recording now complete



Dave Roberts at Debenhams

A Retrospective View of April at Debenhams

By D.R. Roberts

I thought that after being a frequent visitor to London meetings, it was time I gave a programme myself, but found it difficult to decide on a subject as my interests in machines, not records.

I then decided that if I could use Debenhams generosity and one of their rooms, I may be able to give a programme on machines. But what do I use as a story? I also thought that by giving a machine programme I would be able to put a stop to the criticism, which I have heard on occasions, that the London meetings are boring because nobody ever brings a machine to play; we always seem to have a tape recorder or modern amplifier. Some London members have said that it is not easy to bring machines to the West End because of parking and travel problems. I hope that I have now answered these criticisms at least partly.

After much thought my subject was decided. "How did I acquire my collection? The Auction Room." I decided to take a recorded ramble through many of my machines and tell the audience how and where I bid for them. Then follow each with a practical demonstration of the machines. I went through 22 machines altogether and although most played well, we did have a couple of laughs. On one, the 1903 Junior Monarch, as we were singing or tapping our feet to "What is the use of loving a girl" the record decided to keep hold of the needle and it got stuck, got stuck, got stuck, just before the end. The Puck rejected the reproducer when it was only half way through the cylinder (I had forgotten to level the machine). On a third machine I listed one side of a record but played the other side. Also, I never did find a cylinder called Fol de Rol dol, I assume the gnomes changed the lids on the cylinder boxes for me.

Apart from these mishaps the programme went very smoothly and was enjoyed by all but nobody enjoyed it as much as I did. My efforts were all worth while even if I had listened to the programme alone. All but 3 of the items were brought to the store by public transport. Over a period of about 2 weeks I brought in say 6 horns on one morning, a standard and a Mikkiophone the next, a Gem and a Home etc. The only ones that came by car were the Triumph, the Coinslot standard and a Ferrograph tape recorder. I cannot carry these items up the stairs let alone the station. Everything went home in exactly the same way.

A Rather Unusual Experiment

By D.R. Roberts

I am strictly a machine enthusiast and know very little about any of the cylinders or discs I own. Whilst airing a couple of the machines I realised that two of the titles were duplicated on different types of cylinder. I wondered if they had been taken from the same master and I decided the best way to find out was to play two cylinders at once. One of the pairs

happened to be "The Trumpeter" by Peter Dawson. The blue Amberol is a cylinder which I frequently played and had been quite attached to. When I discovered the Wax Amberol I played it using a model R reproducer and it played very well.

Now to try the experiment. I wound the Standard with the wax Amberol and lowered the reproducer, and just allowed myself time to start the Blue Amberol on the triumph machine. I lost ½" of playing before the two records were synchronised. I kept both records at the same speed with occasional adjustments. The result was quite stunning. So much so in fact that I now never play The Trumpeter on one machine, I always use two.

I had a couple of members call at my house and the experiment met with unanimous approval. When it came to my April meeting at Debenhams, I gave out a list of the records and cylinders I intended to use and on which machine each would be demonstrated. By item 16 I wrote simply:

Dawson The Trumpeter Wax Amberol)	Mystery
Dawson The Trumpeter Blue Amberol)	

so nobody knew what to expect. After the introduction for this item, I started both machines but luck was just not with me and I just could not synchronise the machines. Then suddenly it worked. Somebody thought we had stereophony and all were pleased with the result.

If you have different recording machines of the same title and artist, you must try the idea — you will not want to play them singly again.

Report of June Meeting

at the Bloomsbury Institute on June 7th.

The programme consisted of a discussion about centenary programmes that had been broadcast over the airwaves. The first programme which was heard by the members was on Radio Solent, BBC. This was broadcast on December 24th 1977 and various listeners had been invited to recall their memories of the acoustic era or to fill in different aspects on the history of recorded sound.

The programme was presented by Jeff Link who interviewed the different people who were mostly locals.

Some of the people mentioned were society members or were known to the members in the room.

We heard Russ Barnes of Blandford who gave most of the historical notes; Howard Hope with his Fireside 'B'; Paul Morris on the making of a cylinder; George Morgan Harris on Music of the Twenties and various other local people who remembered gramophone shops in the area or had been involved with recording techniques in the early years. It was judged to be quite an interesting programme but a couple of errors did reach the broadcast.

The tape for this section was loaned by Jeff Link.

When this recording was completed we had a short interlude during which Dave Roberts played a Dawson 2 minute Cylinder on an Edison Standard Phonograph. When this cylinder was finished he produced a strange colour cylinder for everyone to compare with the

previous. It turned out to be a home made cylinder as manufactured by Paul Morris. On it he gave a quick description of how he made it. It is hoped we can encourage Paul to give a demonstration to us at a later date.

We then went on to talk about a Programme which was given on BBC South West Television. Some of the members had seen the programme in January this year or had heard a transcription of it which had been loaned to one of the members. For those who had not seen the programme we had some pictures of the equipment that was used in the studio. These consisted mainly of an Edison Home Phonograph, An 1898 "Trademark" gramophone, a reproduction tinfoil Phonograph and some modern equipment to play 20 Pathe discs. It was difficult to make any comments on this programme as it did rely on the visual to a great extent. It was presented by Hugh Scully, Joe Pengelly whose relatives really did have a gramophone shop in Plymouth and Donald Aldous of Hi Fi News fame who was talking about up to 1987 when all recording would be by P.C.M. (Pulse Code Modulations) and other futuristic innovations.

An interesting evening which was introduced by Dave Roberts with assistance from Len Watts.

This was a stand in programme as The President, George Frow, was on holiday and as the Radio Solent programme was an hour long it was decided that Barry Raynaud would postpone his half of the programme until the AGM evening in October

London Reporter

[REDACTED]
Neasden, N.W.10.

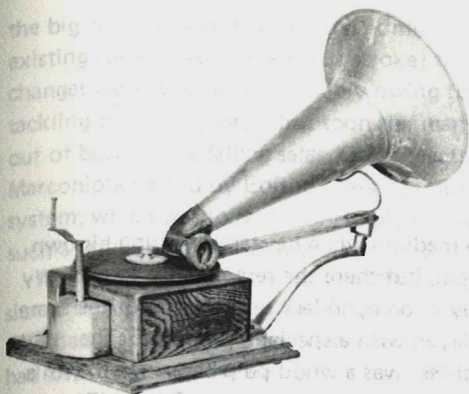
Dear Bill,

Could you please put the following appeal in the Hillandale News for our member Mr Bert Langdon, of [REDACTED] London NW5, who suffered a stroke many years ago which has left him almost helpless. He wants a tape recording made from a Stollwerch record of Paul Lincke's "Spree Amazon".

"Appeal for "Spree Amazon" by Paul Lincke."

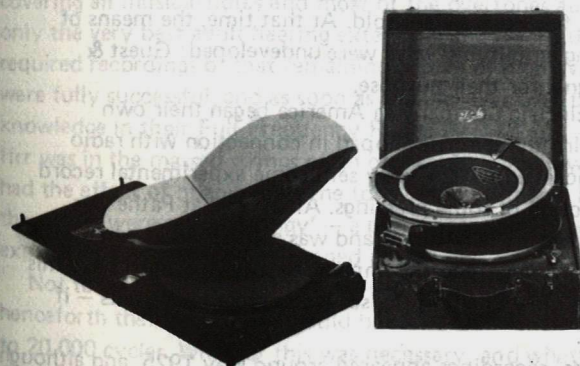
Mr Bert Langdon, a former member of the Paul Lincke Society, in reading his back issues of Hillandale News, has noticed in No 78 page 192, that Frank Andrews was shown a compressed type of Stollwerch Record bearing the title "Spree Amazon". Frank Andrews does not remember who the owner of this record is, but whoever he may be, will he please contact Mr B Langdon, of [REDACTED] Road, London NW5, who is willing to supply a tape cassette in order that he can kindly receive a recording of the recording from its owner. Mr Langdon, has been left pretty much helpless through a stroke he has suffered, and the receipt of such a recording would cheer him up quite a bit.

He has most recordings of Paul Lincke's titles, but not this one. Can you, will you, please help?



A) Most people would probably regard this as a 'Trade-Mark' or 'Dog' Gramophone, but strictly speaking it is not. Close inspection will show the enlarged and slightly flattened spring housing, with the brake lever behind and near the bottom, and a vertical speed-control screw. This is the 'New Style No. 3' of 1903-4, by then the cheapest in the G. & T. range, but capable, unlike the original Trade-Mark machine, of playing ten-inch records. The horn is of nickel-plated zinc rather than brass or black japanned as on the earlier type.

B) Portables with cones: on the left is one of the Vickers-Armstrong Guiniphones, made in this country from 1929 to the American Polly Portable design. For those not familiar with the machine, the conical 'soundbox' is made of cardboard and folds up when not in use. On the right is a Pathe Diffusor portable of a few years earlier: here the cone is a rigid-framed component, which was used on non-portables as well. A similar device was marketed in this country circa 1927 as the 'Phonos' Amplifier, for attaching to ordinary gramophones in place of the existing soundbox and tone-arm. The idea is obviously akin to the Lumiere pleated diaphragm.



C) The Decca name is inseparably associated with portables, but here is a horn gramophone made by Barnett Samuel or, more probably, the Decca Gramophone Co. during its brief period of existence, in 1928. Like most Decca machines up to that time, it has a Paillard motor, and underneath is the characteristic factory label incorporating the date 7.8.28. Notice the blind fret on the front of the case: an attempt to bring an antiquated design up to date by hinting at the speaker-frets of the latest wireless-receivers!

Sound Reproduction

The First Hundred Years by Ian Cosens PART 2.

1912 saw Edison at last capitulate to the disc as a medium when he started issuing his own. They were ten inches in diameter and played at 80 rpm, but there the resemblance to ordinary discs ends. They had a fine groove, vibrating vertically as on cylinders, and played for the same time as an ordinary twelve-inch record. They were played with a special reproducer. The material of the disc, which was a quarter of an inch thick, was a wood pulp base coated with a phenolic resin, smooth and wear resistant provided it was always played on an Edison 'Diamond Disc Phonograph'. These in fact were the most permanent records ever: it is claimed that the company could play a copy for three thousand times and then dare to demonstrate it in public. This is a feat unmatched even today by our best records and equipment. Sadly, all this was too late, and Edison's share of the record and machine market continued to dwindle against competition from the ever more enterprising gramophone companies.

1925 was to see the biggest revolution in the entire history of the talking machine since its very inception, namely the introduction of electrical recording. Almost overnight, a considerable degree of scientific control over the signal actually cut on the record master was vouchsafed to the engineers who had hitherto worked empirically. The frequency range at both bass and treble ends of the scale was extended, and much larger forces such as full orchestras and operatic companies could be 'scanned' by the microphone.

The first published electrical recording originated back in 1920. Two British experimenters, Guest & Merriman, who even had a mobile recording van, recorded the ceremony of the reburial of the Unknown Warrior in Westminster Abbey. The results were poor, even by the standards of the time, their only noticeable virtue being that they had encompassed a large mass of people singing at some distance. This historic record is now a collector's prize: the poor quality combined with limited circulation meant few copies were sold. At that time, the means of electronic amplification using the Fleming amplifying valve were undeveloped: Guest & Merriman did not have a large enough signal for their purpose.

During 1923 and 1924, the Western Electric Company in America began their own experiments, making use of techniques already being developed in connection with radio transmission, and were early met with success. In 1924, they sent some experimental record masters to the Pathe plant for the production of some pressings. An official at Pathe was curious enough to try out one of his customer's recordings, and was astonished at what fell on his ears. It was immediately obvious that for any record company to survive it must have this new process, and very quickly there were moves behind the scenes to secure contracts — if possible exclusive ones — for the system.

The first ordinary commercial electrical recordings appeared around May 1925, and although

the big companies did not at first admit to having a new process (for fear of rendering the existing catalogues obsolete at a stroke) the public were quick to notice differences. Not all the changes were welcomed, probably owing to shortcomings in existing gramophones when tackling the new records, but soon the many small independent companies were being forced out of business by falling sales. Other electrical processes were developed, notably by Marconiphone and by Edison himself, but they could not equal the quality of the 'Westrex' system, which was to remain virtually unchanged until after 1930. Never again would there be such a dramatic advance in the art and science of recording.

What with technical and commercial competition from the gramophone companies, and the slump in America, Edison had finally to leave the industry in 1929, a sad farewell for the man who had started it all: he died in 1931. Throughout the history of his phonograph company, he had kept faith with his customers by making conversion kits available to update earlier machines. Moreover, he doggedly continued to the end offering cylinders (as well as discs) for those backwoods customers who remained loyal to the cylinder phonograph.

The late twenties and the thirties were a golden period for the gramophone, when techniques were stabilised and refined. Many thousands of the records made then can still sound very well, even beautiful, today when properly reproduced. Evidence for this lies in the many 'historical' LP's issued nowadays and containing transcriptions largely from material of this period. Wagnerian opera could now be adequately recorded, a most fortunate circumstance in that it coincided with the heyday of some of the greatest singers in that sphere, such as Flagstad, Leider, Melchior and Schorr. As for lighter music, the sense of life in some of the records of the period is startlingly real. This was a time for great dance bands, whose records sold by the million.

With the outbreak of War in 1939, normal development was halted and supplies of raw materials were restricted. However, a new contribution was to arise from an unexpected quarter. The Admiralty had need of a very accurate recording method to demonstrate subtle differences in sound between enemy submarines and our own, and the Decca company were awarded a contract.

Hitherto, recordings had gone as high as 8000 cycles per second in the frequency scale, covering all musical notes and **most** of the overtones audible to an adult. Generally speaking, only the very best adult hearing extends as high as 16,000 cycles, but the Admiralty now required recordings of that remaining octave of high overtones. The Decca Record Company were fully successful, and as soon as the War was over they made use of their new-found knowledge in their Full Frequency Range Recordings — 'ffrr'. The most noticeable effect of ffrr was in the massed strings of an orchestra. Somehow that last ounce of aural information had the effect of opening-out the tone, which hitherto had always tended to sound wiry. Now the strings were really 'stringy' — a point occasionally objected to by those whose listening experience was confined to canned music!

Not to be outdone, EMI (HMV, Columbia etc) quietly announced to the Trade that henceforth their recordings would be 'tt' — transient true — with frequency range extending up to 20,000 cycles. Whether this was necessary, and whether all musical sources in practice contained overtones as high as this, may be moot points, but the major British companies were

bringing the standard disc record which we now call the 78 to its final, high levels of technical achievement, actually superior in some respects to the first LP which was about to enter the field.

Attempts at longer-playing records had been made since the earliest days of the industry, but practical problems had made them uncommercial, usually because of their size or the low level of signal which could be accommodated. In 1927, Edison had made some LP discs playing for 15-20 minutes per side, using his standard speed of 80 rpm with a very fine groove; but his record company was in decline already, and few bought either the machines or the records. In the thirties it became common for many American broadcasting stations to make off-the-air transcriptions on sixteen-inch discs playing at 33½ rpm. Using grooving similar to that on an ordinary record, they could not cut very near to the centre of the disc without severe loss of quality, but fifteen-minute sides were adequate for their purpose.

Other things being equal, the slower the movement of the recording medium, the poorer the quality. This applies to cylinders, discs, tape, wire, film or any other system that might be postulated. The key to successful 'LP' lies in that phrase 'other things being equal'. What is needed is a corresponding refinement in the groove width in proportion to the speed reduction, and this is what was done by Dr Peter Goldmark of American Columbia in 1948. His new LP played at 33½ rpm, had a groove less than half the width of that on a 78, and offered a quality approximately similar. The prime benefit lay in the extended playing time of a little over twenty minutes per side (later increased), bringing all but the very longest musical movements within its compass. The last serious musical objection to the gramophone had been vanquished. Every infant has its teething troubles, and the early LPs had a frequency range restricted to about 10,000 cycles at the top, and some reduction of signal strength in the bass. These problems were gradually overcome — notably by English Decca — and the LP was eventually to excel even the best of the 78s. These considerations meant little to the general public, most people being quickly persuaded that the LP 'sounded better'. What they usually overlooked was that they were playing the LP on a new machine, and the 78 on something purchased before the War and never serviced since . . .

In this country, which nowadays is the recording capital of the world, the Decca LP arrived in 1950 and that from EMI in 1952. The knell of the 78 had sounded, and by 1958 it was virtually dead. Thus ended the first period in history in which a comprehensive sound picture had been recorded and stored. For sixty years most of the leading artists in the musical world, together with a substantial number of actors politicians and other speakers, had been recorded by the various enterprising studios. Today we benefit from this over a broadening field: musicologists and sociologists, as well as music lovers interested to compare performances of the same work by different musicians, all find the sound archives a rich quarry. Amongst the most interesting material must figure the performances given by composers of their own works, notably Elgar, Rachmaninov, Richard Strauss and Stravinsky. This tradition has been most admirably carried on more recently by Decca with their extensive recordings of Benjamin Britten. To appreciate the ultimate value of such work, just imagine what we would give to hear the sound of Bach playing the organ in St Thomas's Leipzig.

Dear Mr Williamson,

Please pass this letter along to the gentleman responsible for 'Report of the London Meeting ...' which appears on page 12 of the February 1978 issue.

The account of the meeting includes the following remark: 'One of the very first issues of HMV electrics was played . . and was Gems from No, No, Nanette. Although the singers were not particularly attractive . . .'

I wonder whether this disc, issued in your country, is from the American Victor master which appeared as catalogue number 35756 and which, like yours, was available for many years. ('Gems from 'Rose Marie' is on the reverse.) If it is, I am puzzled by the evaluation of the artists. The tenor who sings 'I Want To Be Happy' is Richard Crooks, and I do not believe I need say any more than his name to a record collector. As for the others — well, they were not Metropolitan Opera stars, as was Crooks. However, Olive Kline and Lambert Murphy, who sing 'Tea For Two' were popular Victor house artists from the early 'teens through the 'twenties, prominent church soloists, and their voices, particularly Kline's turn up everywhere on Victor. It is Kline who sings with Chaliapin in his celebrated scene from 'Don Quixote', and who appears with Paul Whiteman on the well-known 'Showboat' selection. She made children's records, some as 'Alice Green' and for a while, early in the days of radio, was 'Miss La Palina' (Named for the sponsoring cigar company) with Guy Lombardo.

It is possible, of course, that C1205 is not from an American master, in which case — well, perhaps the singers are unattractive.

Sincerely yours,
Paul Charosh

The Body And Soul Of The Gramophone

(The Case for the defence of the Clockwork Acoustic.)

PART 4 — Soundboxes as Characters.

Soundboxes! What a marvellous and interesting assortment I saw portrayed on the front page of 'Hillandale' No. 101 for April 1978! Never seen anything like it in all my life — they are just like people in that they come in all different types and sizes. Like people, they vary widely in appearance, each one having its own individual tonal character, and yet, like people, they all operate on the same basic principle. How I would love to have a closer look at them; to sample their performance, and to test each one for any undiscovered capabilities each one may have for further enhancement of its performance as I am sure some of them must have, given the right materials — particularly a certain kind of gasket I have tried successfully and which, now unobtainable, has never to my knowledge, been used on any soundbox. The soundbox to the left at the end of the middle row looks particularly interesting and unusual in that it appears to have two styli — one shaped like a ring concentric with the housing and attached to the diaphragm along its circumference; and the other like a normal stylus passing over the ring and joined to the centre of the diaphragm. Presumably this box can be turned on the tone arm to facilitate its use either on vertical or lateral cut records. The soundbox below it has attached to its housing, an inverted V-shaped piece of metal with its point above the centre of the diaphragm. If this is not merely a kind of guard, its use is intriguing. The ring shaped stylus, by the way seems to have been copied to a point on the late HMV No 5A soundbox whose stylus is connected to a spider which is joined to the diaphragm at eight points round the circumference of one of its concentric corrugations. I have in my collection of 40 soundboxes, five of those in the photograph, viz. HMV No 4 (mica), HMV No 5A (metal) and the smaller and latest Columbia model No 15A (metal). The dark cased-in box shown in the middle of the second row is exactly the same model a friend of mine has, and its construction is unusual in that it's stylus is mounted on a piece of spring metal that swings pendulum-wise. It has a large 60 mm metal diaphragm with a cone in the centre, like a miniature loud-speaker. Small corrugations surround the cone to give resilience to the diaphragm whose flange is held between two rings of thin tough card material. There is no rubber gasket. This soundbox gives a good performance with ample bass, but it is completely unadjustable and untunable. If the diaphragm is damaged, no other can be made to fit as the altitude of the cone is unusually high in order to connect with the stylus. A very awkward soundbox to repair. On the front of the casing is embossed anchor, and on the back of the housing, the name 'Apollo' appears — make unknown, but Decca had a similarly constructed soundbox bearing their name and using exactly the same diaphragm. I saw one on a portable I was repairing. I'd like to hear something about the boxes in the photographs.

It is because, as the 'Hillandale' photograph shows, soundboxes varied so widely in appearance and design, each having its own 'personal' timbre, that they were so interesting and fascinating. Like people who respond in different ways to each other and to life, each soundbox expresses a personality in the way it brings out different qualities in different records. Some

characters are comparatively firm and rather hard, but they are brilliant, crisp and clear. Others give a softer mellow tone because of their more compliant nature, but the sound is not so well defined and can be somewhat 'woolly'. With weaker characters, the tone is somewhat thin, but can be very sweet, and with a few, the tone is rich and full and deep and yet as sharp and clear as any that can be, but none can reproduce with absolute perfection every note and every kind of sound however loud. Some boxes cannot cope with certain records and the needle chatters in the groove and tears the track because either they (or people) are too rigid or their diaphragms comply too much and consequently over-react to cause as much distortion and damage to the record (or life) as the opposite condition. Thus we have an analogy of life illustrated more clearly by soundboxes than any amount of oratory. We, with our various and sundry reactions, play the part of the soundbox while the environment and influence of other people around form the track of the record we have to play. If we can take it, a clear, full bodied tone results and neither other peoples' records nor our own get scratched. Hence my title 'The Body and Soul of the Gramophone'.

But time marches on and at all costs, we have to move with the times in the quest, above all things, for technical efficiency and perfection as far as is humanly possible. So, they don't make soundboxes any more. Most of them have been destroyed or thrown into dustbins while the few that remain are fast becoming valuable antiques. No longer is the sound seen physically being reproduced, but from sleek and streamlined pick-ups looking much the same, the reproduction comes magnificent and unsurpassed. Instead of the moving diaphragm producing the sound, it now depends upon variations in an invisible electric current, and as most well designed modern record players function to an almost uniform degree of perfection, it makes them all the same. It is this uniformity of both appearance and performance that has taken away their character and personality. Having become impersonal, you do not notice the record player at all as an entity, which is an advantage when one wants to listen to music with the minimum of distraction. But you can't have any fun experimenting with these machines like you can with soundboxes. Also, because of their uniform degree of perfection, you can't analogise any more, for with something that is uniformly perfect, you cannot relate it in any way with life or the vagaries of human nature. So, our modern equipment, excellent and beautifully made as it is, conveys no message and tells us nothing as far as life is concerned — it can't because its performance is constant and never varies.

Another thing about modern technology that tends to further destroy any character and personality in mechanical objects is that as science advances, all moving parts are increasingly being reduced to the point where all movement is either hidden or invisible. From ship's engines to clocks and watches, nothing is seen to move. What can be more uninspiring than a dull, cased-in cylindrical object (i.e. a turbine) emitting a monotonous, featureless, whining noise, or a watch when, on opening the back, you see nothing. I heard on the wireless the other day that the great attraction of the P.S. 'Waverley' — the only sea-going paddle steamer in the world, is the beauty of its moving machinery, while in a screw driven steamer, no movement is visible. In the old days, factory machinery and generators were driven by enormous gas or steam engines. I saw some of these at the Wembley Exhibition of 1924, and a magnificent sight they were with their impressively moving cranks and pistons in perfect rhythm driving massive fly-wheels, some of them 20 feet in diameter. Of course such machines these days would be quite inadequate and uneconomical, and consequently have ceased to exist long ago. Hydraulic power and invisible electricity driving unseen mechanisms behind a casing do the job far better; but the fact remains

that the advance of science has entirely done away with the beauty of moving machinery. Is this, however, a good thing not to have engines and machinery whose parts are seen to move? C.A. Joyce, that far-seeing prison governor was always on about the fact that if beauty is removed from anything at all - including machinery, that thing becomes soul-less, featureless and impersonal. The aesthetic quality of moving machinery together with the personal character of gramophones is now a thing of the past and to restore it, ways would have to be found to establish new roles for such equipment and to render it compatible with existing modern instruments whose main visible features seem to be just the buttons, control knobs and a few meter dials.

Both past and present times have both positive and negative aspects, and I have always felt that we would do well to preserve the positive aspects of the past, cut out the negative and combine them with the positive aspects of modern times. Instead, when we bring out a modern production, we tend to destroy the old one lock, stock and barrel — wipe it out and do away with it, good qualities and all. I was not going to write all this diversion but was prompted by the photograph on the front of April's 'Hillandale' to record all these thoughts in 'the Case for the Defence of the Clockwork Acoustic' — thoughts which all along have prompted me to experiment with soundboxes in the hope of making them sufficiently compatible to be preserved as creations of character and having a continued useful role to play. Though other aesthetic mechanical creations may have gone forever, I feel in my own mind that, with a bit of closer study and ingenuity, the soundbox and gramophone may yet be saved from final demise. It is from this angle that I have joined the C.L.P. & G.S., believing this Society to be actively interested in keeping the gramophone alive as a practical musical instrument of personal character and interest quite apart from its great historical value. What is purely practical however efficient it may be, can never offer all it might do if it has not also some kind of character. The gramophone, although it may not be quite so efficient in purely practical terms, has both practical and personal appeal. This is why, as far as I am concerned, the two aspects together give the clockwork acoustic the greater appeal. I can enjoy both the music and the instrument's special personality.

I was indeed flattered to see the photograph of a Guiniphone inserted along with my second article in April's 'Hillandale' and was interested to see the white instruction disc shown to have been supplied with it. No such disc accompanied the one I had, and I do not somehow think it was quite the same model as the one shown in the photograph. The one I had was a small black rectangular portable with a 7" or 8" turntable. It had a "Puratone" metal soundbox with a pivot mounted stylus and diaphragm about 48 mm across. It would take a 12" record and the straight tone arm opened directly into the aperture in the deck, just behind the turntable. There was no horn as such. My 'Guiniphone' had a single spring motor with a 9'6" x 3/4" spring and there was no worm drive on the governor — only a straight cog gear which made a humming noise. I actually had the machine about 1929 and it lasted about 4 years before it finally stripped its gear and fell to pieces.

Now to continue where I left off in my last article:— Having got a job as an insurance agent, I promptly made for the best music shop and bought an HMV Portable for £3.15s.6d. Unfortunately, the model I wanted with the No.4 soundbox had just gone off the market, so I settled for this latest one with the wide tone arm and No.5A soundbox. I still have this particular machine bought in 1932 — 46 years ago! Still wanting to experiment, I had an

adaptor made (I still have it) so that I could use other soundboxes on my new HMV, for the No.5A is so made that you can't get the diaphragm out without unsoldering the spider from the stylus and with most of them, you can't even get the back off. In any case no other diaphragm will go into a 5A, so no experiments here and good is best left severely alone. For experimental purposes, I managed to acquire a large Goldring soundbox which had a 61 mm mica diaphragm and which (like the HMV No.4 box) would fit the adaptor I had made. As the Goldring had a simple pivot mounted stylus without restraining springs and the back was easily removed this was ideal for trying out home made diaphragms. Also bought 7 spare micas to fit the Goldring in case of accidents. I still have these seven large mica diaphragms, but unfortunately sold the soundbox many years ago with a second-hand portable I had because I was short of cash to pay a rail fare. I rue the day I did that, for I specially want one of these Goldrings for my collection, but now I guess it's too late as this particular model became extinct ages ago. With its large mica diaphragm, it gave a splendid performance.

During the years I had the Goldring soundbox, I concentrated largely on paper diaphragms as I had noted the principle on which the cone of a loud speaker works. These diaphragms consisted of paper cones mounted on paper flanges slightly cambered to give better resilience. The flange was made by cutting out a small portion from the circle of the flange and sticking the two ends together. This slightly cambered the flange. The cone was formed by cutting a small radial segment from a circle of paper and sticking together the two edges of the cut-out wedge. This formed the cone which was then glued onto the inner edge of the flange. The stylus of the soundbox was then pushed through a hole in the top of the cone and secured with a seal of candle wax. The results were amazingly good and I tried it with different kinds of paper and differently cambered cones — all worked a treat, but changes in humidity caused the paper to buckle out of alignment or come unstuck, so had to make more diaphragms. Of course the folk back home did not understand gramophones and could not figure out why I kept on continually making paper cones — must be mad! However, I learned something and gave up the paper cones — too flimsy.

I did not acquire my first HMV No.4 soundbox till after I had gone to sea as a Radio Officer. I found several of them in a shop in Bombay, and two more in Shri Lanka while with the Royal Signals during the last war.

My next article will concentrate on different types of diaphragms, how they seem to function in different circumstances and the resulting performance.

C. J. Goodall

My Opera Machine

by Steve Jellymay

After looking for an Edison 'Opera' Phonograph for several years, at last I located such a machine after advertising in 'Exchange & Mart'. It appeared in a sale in Kendal in the Lake District (Fig 1). Luckily an antique dealer spotted the machine in the sale and had remembered my advertisement, and promptly contacted me.

The 'Opera' is in an oak cabinet which is very similar to the late Model Triumph Cabinet (Fig 2). It differs from the more familiar mahogany version by having no handles, and the lid fastens to the base with the familiar Edison-type clips, rather than the lid just resting on the base, as in the case of the mahogany cabinet.

The machine was in a scruffy condition when it arrived. The wood was very lacking in polish, and the top enamel was covered in a thick layer of grime. I thought the best way to tackle the cleaning of the enamel was to completely dismantle the top mechanism. Whilst re-assembling, to my utter dismay, I heard a nasty rasping sound and realised I had damaged a gear — the fibre gear that drives the worm on the governor, and produces the 'noiseless' drive (Fig 3).

You can imagine how I felt, after so long trying to find an 'Opera' to damage the machine the day after I acquired one!!

The replacement of the gear proved quite a problem. The teeth are pitched at a critical angle, and the whole has to be made to precise limits. Eventually Ron Armstrong of Meopham came up trumps and produced a perfect replacement. It was a joy to listen to the machine play again after so long laying dormant under the spare bed.

In my quest for a replacement gear over two years, I found that many 'Opera' machines have an inherent 'wow' which invariably points to a worn fibre gear. A design feature which is supposed to reduce wear on this gear is a small spring of piano wire situated on the flywheel under the left hand cover (see illustration). This is, I believe, supposed to protect the fibre gear from undue stress when starting and stopping the machine. This small feature is very often found to be missing on surviving 'Operas' and could well be a major cause of fibre gear breakdown.

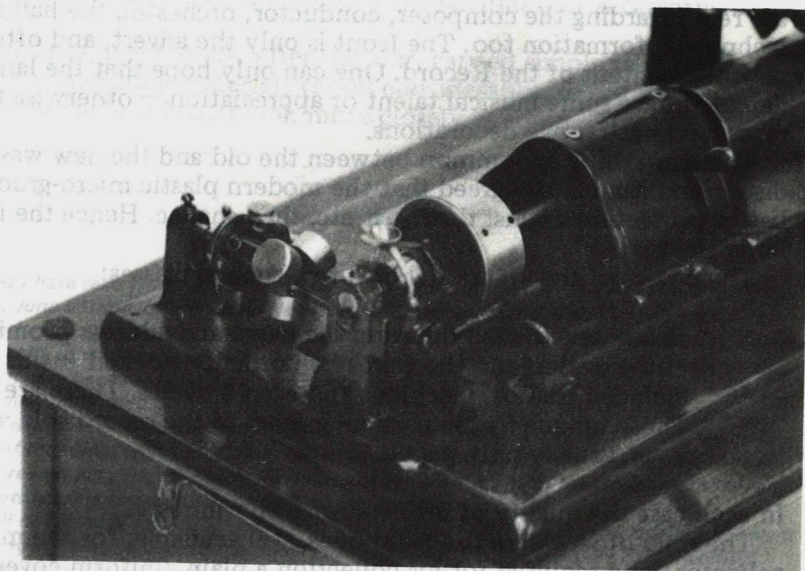
It is also advisable not to 'twist' the mandrel whilst putting a cylinder on or taking a cylinder off the phonograph as this also imparts undue stress. It is preferable to let the machine run down after use as the whole power of the spring is held on the teeth engaged in the worm of the governor.

The replacement gear is available from Ron Armstrong (tel: [REDACTED]) at a price of £6.50.

"Opera" in back garden



Position of Fibre Gear and Piano Wire Spring



'Sound-Reflections and Echoes'

VI Record Covers or Sleeves

Much has been written of the Records and their Labels. Of course, the most important is the musical content of the disc, its interpretation, and the Artistes and their lives — that is the whole point of their manufacture.

While walking around our exhibition at the B.I.R.S. last year we saw in the main Machines, space did not allow for many interesting discs, but one item covered quite fully was needles and needle-boxes. As in most arts or sciences, detail is important.

Going through my collection recently (assembling records for the June meeting actually) the humble covers (or record sleeves) caught my attention — for the first time after all these years! It is the sleeve which first catches the eye on making a purchase: in fact in these modern days when each Record has a **unique** sleeve it may well be said that the cover sells the disc. Certainly the Record companies spend considerable time and money on their design and materials — it may well cost more than the basic plastic of the record — bearing in mind each cover is different and requires a whole staff for their production. 'Packaging' is the modern marketing word, I suppose.

But, returning to the 78-days, the sleeves were not expected to fulfill the same functions entirely as the modern ones — which have all manner of information on the rear regarding the composer, conductor, orchestra, the hall used, and at times technical information too. The front is only the advert, and often has little to do with the content of the Record. One can only hope that the languid young ladies depicted have some musical talent or appreciation — otherwise they can only be regarded as attractive decorations.

The main thing in common between the old and the new was to protect the disc — and it must be agreed that the modern plastic micro-groove does require better protection against dust, grit etc. than shellac. Hence the inclusion of the inner sleeve.

The covers of the 78-era fall into two general classes:

- * Those issued or sold having the name and address prominently displayed of the **dealer**, and the wares he normally stocked — this may well have included Radios, machines and even bicycles. These are usually cardboard.
- * Those unique to the particular **label** of the record sold — always a free-issue, usually only paper.

In each case the quality of material vary enormously.

The only others were the plain ones, still available, for the more serious collector, who required for his collection a plain, uniform cover of good quality and neatness, complete with spaces for composer, titles and index — but these were not given away as free-issues with the purchases.

For the first time I've arranged my discs in their correct covers wherever possible — the entire collection seems much more logical now. Here I list those that I possess: some covers are just one pattern, or have just a minor change in print colour or paper quality; and others fall into many different productions over the years.

- 12" HMV, Decca.
- 8" Broadcast, Eclipse.
- 7" Victory.
- 10" Broadcast, Brunswick, Capitol, Columbia, Decca, Dominion, Durium (special series only) Embassy, HMV (easily the most different types), Imperial, Odeon, O-Keh (CBS), Polydor, Pye Group (Nika, Mercury, EmArcy), Parlophone, Philips, RCA-Victor, Rex, Regal, Regal-Zonophone, Zonophone (a pleasing, classic design).

(I am not aware of M-G-M being represented — maybe their discs were sold in plain covers only.)

All have the central hole cut-out both sides to enable the label to be read, and this of course is never the case with modern sleeves, which as we know, are printed with all the essential information.

As with modern record sleeves, some advertised the Artistes currently available on the makers' discs, some giving specific titles and catalogue numbers. Others lean towards the technical merits of the discs, their machines, or accessories advantageous to use.

The more recent ones, printed just after the war, carried simple sales slogans, and as the quality of the actual materials varied considerably, so did their durability. In a further article I shall look more closely at some of them.

H. B. Raynaud

Dear Bill Brott,

It is with dismay that I have read fellow member Ian Cosens's first instalment of 'The First Hundred Years' on pages 78 to 80 in the June edition of Hillandale News, No. 102, and with all due respect and apologies, may I ask Mr Cosens has he not been reading the results of the recent researchings which have been proceeding in various parts of the world, including my own small efforts in Britain, and much of which has been finding its way into papers which have been read and published in connection with the recent celebratory events in the Talking Machine Review, published by Ernie Bayly; and in the later editions of the Hillandale News? Indeed the present June issue contains matter both from our President, George Frow, and myself, which is quite contrary to some of the things which Mr Cosens has written. For too long, in my opinion, we have had the same old half-truths re-iterated about the early inventions of the pioneers, with the stories muddled, once the inventions and patents became commodities of the various manufacturers.

I hope Mr Cosens will not mind me pointing out to him that Monsieur Charles Cros was the first to invent (intellectually) a recording machine capable of reproducing sounds, and that this was only a 'probability', had someone else done likewise before him but kept it a secret unto himself! Also Cros did make an attempt to build a machine, which he tried to do by contracting others to do it for him, — did Mr Cosens not hear Melvin Harris's broadcast about Cros? Read George Frow on page 57 of the June, Hillandale News, para 3, for a brief mention of this fact.

Next, the August date on the 'Kreusi' drawing for a phonograph in 1877, is now known to have been added later, (See page 17 of 'From Tin Foil to Stereo'), and as Ray Wile pointed out in his paper, read at the Royal Scottish Museum, the Edison Laboratory documentation is sadly lacking for the period in which the first tin-foil machine was actually made. The drawing, as such, was a 'this is the general idea' type of drawing and in no wise resembled a workshop drawing for a 'one-off' machine; which is not to say the machine could not have been built from it, allowing for many questions and answers on the part of the constructors.

Surely the first Edison machine had separate recording and reproducing heads, not one head to carry out both functions? (See pages 18 & 19 'From Tin Foil to Stereo') and the Edison U.S. patent, filed Dec. 24th, 1877, where 'B' is the indenter tube and diaphragm, and 'C' is the reproducer tube and (lighter) diaphragm.

Where is the evidence that the Graphophone and Edison patents were 'pooled'? After the invention of the Graphophone, the Sumner Tainter Graphophone, it was offered to the Edison Speaking Phonograph Company's officers, on at least two occasions, and was rejected by that company. When Edison again turned to the phonograph, the Graphophone wax cutting method was already patented and Edison's new machine used wax cutting without being licensed from the Graphophone people. The Edison patents were acquired by Lippincott and the North American Phonograph Company, which he founded. The Bell-Tainter-Graphophone patents were acquired by the American Graphophone Company. Possession of these patents remained separate and were not in conflict with one another so long as Lippincott held the sole sales rights for the Bell-Tainter Graphophones; he, or his company, the North American Phonograph Coy., owning the Edison patents. With Lippincott's failure and departure from the scene the Edison and Graphophone (Bell-Tainter) patents were once more in contention. A cross-licensing arrangement was entered into but some years later, yet commercial production of the rival phonographs had begun before that occurred, which was not until Dec. 1896. In the U.K. the patents were not 'pooled' but owned by one company.

Berliner was not the first with a disc machine either, in fact or theory. The first machine suggested by Cros, in his famous paper, was for a disc machine, which Berliner later re-invented some ten years after; and

[REDACTED] N.W.10.

then discovered Cros had suggested what he had just accomplished! Edison had invented a tin-foil disc machine by 1878, which formed the first illustrations of his British patent, and the Bells and Tainter, by October 1881, had experimentally produced lateral and vertical cut wax discs, from which they had procured metalized shells — but this was kept secret, although a disc machine was also shown in their patents of 1886.

The Gramophone began receiving clockwork motors in October 1896, according to B.L. Aldridge in his monogram on the Victor Talking Machine Coy., and Seaman and his National Gramophone Company, the sole sales outlet for the Gramophone in the USA (and exports to the UK), formed in late 1896, were immediately involved with the new spring motor driven Gramophones. Mr Cosens, your 1898 is much too late!

The question of the double-sided record, and its late adoption by the majority of the record making and selling companies is an area that still requires investigation before a satisfactory explanation can be given. That existent patents and the change in the patent laws in 1907 had something to do with the almost overnight twin-sided issues of 1908 (Gram Co.'s 'Twin Double-Sided Disc', Pathe's going double-sided, Edison Bell 10% ins. double-sided; and Columbia, in 1907, going double sided for a second time, having been threatened with proceedings in 1904/5, are almost certainly to be factors which influenced the policies of the manufacturing companies. The fact that the German companies of Homophone, Beka and Favorite, like Columbia, offered their earlier discs in both double-sided and single-sided form could indicate that they were making sure they would have some stocks to sell if they found themselves with an injunction to restrain from selling double-sided discs because of patent infringements!

AND NOW TO MY OWN MISLEADING STATEMENT IN THE SAME ISSUE OF HILLANDALE NEWS! MONSIEUR CHARLES CROS' PATENT ? ? ?

I apologise to all and sundry for the way this was presented in my 'Hundred Years, Not Out' article — the imaginary conversation with Archimedes Savant (formerly Greenhorn). Cros had no patent for his invention, I well know that, and the word 'patent' within the last line on page 62, June 1978 issue, should have been printed just as now, viz., 'patent', which was intended to refer to Cros' written description of his invention and which was sealed and delivered to the French Academie des Science as an establishing of his prior claim to be the inventor of a talking machine in 1877, (not 1878, as printed) and Berliner's concern was not the validity of Cros' 'patent' but whether Cros' published description of his invention would affect the validity of his (Berliner's) patents for the Gramophone if and when applied for, for the question of 'antipatent' and 'public knowledge' could invalidate the granting of letters patent at the outset if much were proved to be established.

The enclosing quotation marks should also have been applied to the word 'patent' in the first line of the fourth paragraph from the bottom of page 64.

I shall have to go too bed earlier than of late and check my work more thoroughly before sending it off to you Bill!

Yours sincerely,
Frank Andrews.

My Thoughts on Edison

by P.W. Temple

In 1877 Edison invented the tin foil phonograph, from an idea suggested to him by his work on the telegraph and telephone. After its invention he made no more than minor improvements (such as dispensing with separate recorders and reproducers). He even left the attachment of a motor to Stroth and the London Stereoscopic Co., even though the early tin foil machine badly needed one, its attachment vastly improved its performance. He also received several letters suggesting that a motor should be fitted, but did nothing about it. Edison was also quite happy

to leave his phonograph as no more than a scientific toy while he carried out work on the electric light. All of which seems a strange way to treat your favourite invention. Research was not begun again until Edison heard of the improvements that had been made to the phonograph by Bell-Tainter on their 'Graphophone'. This delay was to lose the phonograph its development lead over the gramophone. Indeed it was the Bell-Tainter 'Graphophone' that contained all of the features that were needed by the phonograph to turn it from a scientific toy into a commercial proposition, as it was the first to:

1. Record in wax
2. Incise a record
3. Use a removable record.

It is of course true to say that these innovations were mentioned by Edison in his first patent on the talking machine. But I am only dealing with products available commercially, for if I begin to discuss ideas that were never to leave the drawing board or laboratory I should have to consider the possibility of Cros being the inventor of the talking machine and not Edison. (It should be noted here that Berliner was to successfully use the Charles Cros method of photo-etched discs in his early experiments.)

The Edison policy of not recording really serious music (not even in his 'Grand Opera' records) was, in my opinion the largest contributing factor to the downfall of the phonograph as a means of entertainment, even after you have taken its other disadvantages into machines consideration. On the grounds that the phonograph reproduces much better than a contemporary gramophone and I am sure that the phonograph would have received much more backing if it had recorded really serious music. Bettini did record serious music and I am aware that these were not commercially successful, but Bettini did not have the international organisation or financial backing of the Edison enterprise.

Some people may say that I am at fault by only talking of Edison on these points, when there were other companies manufacturing cylinder machines at this time, but Edison was the largest manufacturer in the field.

I do not wish for any of the above comments to detract from the fact that Edison produced products of outstanding quality and technically advanced for their time. It is also true to say that there was no fault to find with Edison products, he was always to produce an adaptation to update his old equipment when new ideas were introduced (where possible).

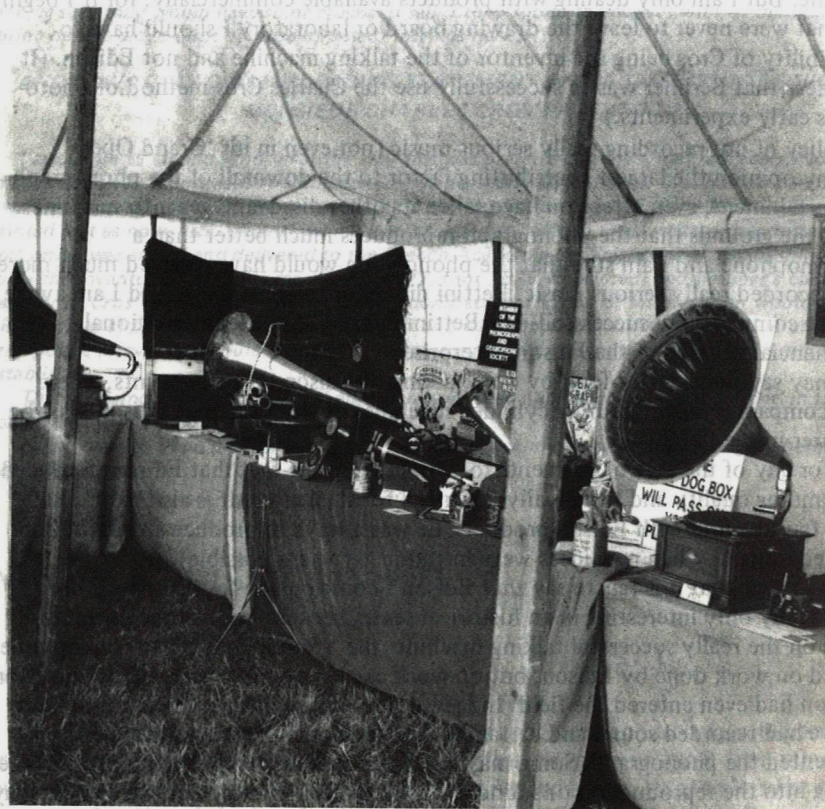
In summing up I think that it is fair to say that Edison's contribution to the history of recorded sound is really only interesting in an historical sense, because none of his inventions had any influence on the really successful talking machine, the 'gramophone'. The gramophone was not even based on work done by Edison, but on work carried out by Charles Cros and Leon Scott before Edison had even entered the field. Indeed it does not seem too unfair to say that we would still have had recorded sound and certainly the system that we have today even if Edison hadn't invented the phonograph. Some may say on this point that Berliner obtained the idea of researching into the reproduction of sound from the Edison phonograph. While this may be true to some extent, Berliner was researching into acoustics before the Edison 'Tin Foil' phonograph had been invented.

This Exhibition Lark

By John Stannard

Last year, our centenary year, must have brought more exhibitions of gramophone displays than usual. Don't let this be the end — there is always an opportunity for a display any time of the year.

My wife, Audrey, and myself put on an average of 14 phonograph and gramophone displays every year. We have a charity we like and we collect for that. That gives us an incentive to put on a good show; putting on the shows also makes me get my machines in good running order. I mean you must have machines working properly. It's a bit of a let down to have to tell



... a few old blankets or cloths make the display look better ...

people that one particular gramophone don't work.

Audrey and myself pack the car with machines the night before the display or rally. We've got an old Austin Westminster which is fairly roomy — but you'll be surprised what you can get in any car with careful arrangement.

A roof-rack is a great help, and on this we put all our tables. Most rallies can find you a place under cover, but not all have tables to spare. Paste-board tables costing around £3.50 are ideal for taking to displays. They fold flat and are easy to erect quickly. Each table holds four or five gramophones or phonographs. We usually take out 16 machines — that means four tables on the roof-rack.

What else do you need? Well we don't need electricity for a start do we? But a few old blankets or cloths to cover the tables will make the display look better. Hang the cloths right down to the floor on the viewers side. Display notices are always handy; I paint these on pieces of hardboard etc: 'GRAMOPHONE AND PHONOGRAPH DISPLAY NOW ON.' 'OLD TALKING MACHINES THIS WAY.' And so on.

The morning of the rally or display we like to arrive at least 1½ hours before opening time. If we are going to a steam rally which will mean being in a marquee, we usually have to spend time locating it on the show ground and deciding the best way to arrange the tables to give the viewing public the maximum room.

With the tables, cloths and signs in position the machines are arranged. Audrey puts out the smaller phonographs and gramophones while I see to the heavier ones. We always wrap each machine in an old blanket to protect it from bumps and scratches — these blankets then double as the display table-cloths.

Tone-arms of gramophones being continually transported seem to go wild like some nickle-plated snake; so I stop their gallop with an upholstery brass stud, obtained at most good hardware shops. Insert the stud into the needle holder of the sound-box leaving the mushroom dome laying on the turn-table. This can then be secured by a rubber-band or string to the turn-table centre post. No more will you have torn turn-table cloths.

The display takes shape and we put out small cards showing the date of each machine. Then comes the most important of the small display cards, at least a dozen of: 'PLEASE DONT TOUCH'.

Cylinder boxes are shown with the phonographs but these — most sensibly — are empty ones. I leave one tatty old cylinder on show for those who like a close look, and take only a couple of unbreakable cylinders to play during the exhibition. We leave out a few leaflets advertising our society, then one last check along the line of machines and we are ready for perhaps a five hour stint or longer.

A record or cylinder is kept playing throughout the display — so we usually take about 50 records of a lively nature.

The crowds begin to flock in: George Formby is singing 'Leaning on a Lampost': a Peter-Pan gramophone is put through its paces; time literally flies by. I wind up the Edison Standard for the umpteenth time, a small boy tries to get his head inside the three-foot brass horn hanging on a floor-stand. It's been a grand day. Our charity has benefited by £16. Someone has offered another gramophone for our collection — we had two given to us last year; an Edison Bell handiphone and an HMV 101 portable. So displaying can be to your advantage.

What about it together? Let's see a few more small localised exhibitions. Don't wait to be asked to go, when you see an advert in the local paper for some function or other write to the organizer for permission to go. You won't have to ask again next year, you will be sent an open invitation well in advance — just think, you might even get to like this exhibition lark.



The Exhibition Lark